2.2.4.5.3 STATE VECTOR Element (For TIS-B)

Format for the STATE VECTOR element used for a TIS-B is defined in <u>Table 2-38</u>. This encoding applies to ADS-B Messages with PAYLOAD TYPE CODES of "0" through "10" <u>only</u> when a TIS-B target is being reported (ADDRESS QUALIFIER value is "2" or "3"). Each of the fields shown is defined in §02.2.4.5.3.1 and §2.2.4.5.3.2.

Payload Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Byte# 5 6 Latitude (WGS-84) 7 8 9 Longitude (WGS-84) Alt Type 10 11 Altitude 12 NIC A/G State 13 Reserved 14 Horizontal Velocity 15 Vertical Velocity or Aircraft Length/Width Code 16 **TIS-B Site ID** 17

Table 2-38: Format of STATE VECTOR Element (For TIS-B)

Note: Design of the TIS-B Ground Subsystem is in a preliminary phase. The message structure in Table 2-38 may evolve as this design matures.

2.2.4.5.3.1 "TIS-B SITE ID" Field Encoding

The "TIS-B SITE ID" field is a 4-bit (bits 5 through 8 of byte 17) field with the MSB as bit 5 and the LSB as bit 8. See Table 2-5 for the encoding of this field.

Notes:

- 1. The "UTC" field shown in Table 2-11 for the State Vector Element is not available provided for TIS-B transmissions. Since TIS-B transmissions come from ground stations, their The "UTC Coupled" status of the Ground Station transmitting TIS-B information is available in the UAT Ground Uplink Message (§2.2.3.2.2.1.4).
- 2. The application that uses TIS-B reports is assumed to make appropriate checks for a TIS-B Site ID of value ZERO. <u>If the Address Qualifier shown in Table 2-10 indicates that this is a TIS-B Message</u>, and the TIS-B SITE ID indicates a value of ZERO, an error condition is indicated.

2.2.4.5.3.2 Encoding for All Other Fields

The encoding of all other fields in the STATE VECTOR Element for TIS-B shown in Table 2-38 is consistent with that of §2.2.4.5.2.1 through §2.2.4.5.2.7.2.